

138482-2

IN THE SPECIFICATION:

Please insert the following paragraphs on page 8, after line 9 and before the heading "BRIEF DESCRIPTION OF THE DRAWING" (as amended in the prior response).

A method of producing cumene hydroperoxide, comprises: forming ammonium salt by reacting carbon dioxide with ammonia in the presence of an aqueous feed stream, and reacting oxygen with cumene by passing the oxygen through a water-cumene emulsion in a presence of a mixture of the ammonium salt and ammonia. The mixture is fed in an ammonia: ammonium salt mass ratio of 1:100 to 100:1.

Please substitute the following paragraph for the paragraph beginning on line 10 of page 8 and ending on line 2 of page 9 (as amended in the prior response).

The process of continuous aqueous-emulsion oxidation of cumene is preferably conducted in a cascade of flow-through reactors by bubbling air through a water-cumene emulsion. The process is conducted at a temperature of 120° C. in the first reactor, lowering it to 80° C. in the last reactor, and at a gage pressure of 5 atm, in the presence of a mixture consisting of a 0.007-0.5% aqueous solution of ammonia and a 0.001-0.5 mass % solution of an ammonium salt (e.g., ammonium bicarbonate, ammonium carbonate, ammonium carbamate, or a mixture thereof). The ammonia: ammonium salt mass ratio is (1:100): (100:1), preferably (1:10): (10:1). The oxidative feedstock is fed into the bottom part of each reactor while the aqueous phase is fed into the top part of each reactor. The organic layer of the reaction mass gravity overflows into a vessel, from which it is periodically discharged. The aqueous phase is periodically discharged from the bottom of the reactor and flows through valves into a vessel. The gaseous phase is partially condensed in a cooler, passes an activated-coal filter, where partial sorption of cumene takes place, and then goes, through control valves, into an oxygen analyzer and rheometer. The discharge rates of the liquid phases are controlled by pumps. The reactor temperature is set by a thermostat (oil is used as a heat-carrying agent) and measured by a thermocouple.

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